WHAT IS CLAIMED IS:

1. A drive apparatus for a vehicle comprising:

a first drive unit including at least a first non-permanent magnet electric motor configured and arranged to drive a first wheel, and a first reduction gear operatively coupled to the first non-permanent magnet electric motor to reduce speed of the first non-permanent magnet electric motor; and

a second drive unit including at least a second non-permanent magnet electric motor configured and arranged to drive a second wheel disposed on an opposite side of the vehicle from the first wheel, and a second reduction gear operatively coupled to the second non-permanent magnet electric motor to reduce speed of the second non-permanent magnet electric motor.

2. The drive apparatus according to claim 1, wherein

the first and second drive units are housed substantially within first and second rims of the first and second wheels, respectively.

3. The drive apparatus according to claim 1, further comprising

first and second inverters configured and arranged to supply electric power separately to the first and second non-permanent magnet electric motors, respectively; and

a driven wheel drive controller configured to control the first and second inverters to separately control a torque of each of the first and second non-permanent magnet electric motors.

4. The drive apparatus according to claim 3, wherein

the first and second inverters are further configured and arranged to share an input capacitor.

5. The drive apparatus according to claim 1, further comprising

an inverter configured and arranged to supply electric power to the first and second non-permanent magnet electric motors; and

a driven wheel drive controller configured to control the inverter to uniformly control a torque of each of the first and second non-permanent magnet electric motors.

6. The drive apparatus according to claim 3, further comprising

a wheel speed sensor unit configured and arranged to detect speed of the first and second wheels, and

the driven wheel drive controller being configured to determine drive frequency of each of the first and second inverters based on the speed of the first and second wheels.

7. The drive apparatus according to claim 5, further comprising

a wheel speed sensor unit configured and arranged to detect speed of the first and second wheels, and

the driven wheel drive controller being configured to determine a drive frequency of the inverter based on the speed of the first and second wheels.

8. The drive apparatus according to claim 1, wherein

the first and second non-permanent magnet electric motors are switched reluctance motors.

9. The drive apparatus according to claim 1, wherein

the first and second non-permanent magnet electric motors are induction motors.

10. The drive apparatus according to claim 3, wherein

the driven wheel drive controller is further configured to control the first and second inverters to stop flows of drive currents to the first and second non-permanent magnet electric motors when a vehicle speed is equal to or greater than a prescribed vehicle speed.

11. The drive apparatus according to claim 5, wherein

the driven wheel drive controller is further configured to control the inverter to stop flows of drive currents to the first and second non-permanent magnet electric motors when a vehicle speed is equal to or greater than a prescribed vehicle speed.

12. The drive apparatus according to claim 10, wherein

each of the first and second non-permanent magnet electric motors includes a ball bearing unit having a maximum permitted rotation speed that is greater than a maximum drive rotation speed of each of the first and second non-permanent magnet electric motors that corresponds to a prescribed vehicle speed for stopping electric conduction to each of the first and second non-permanent magnet electric motors.

13. The drive apparatus according to claim 12, wherein

the ball bearing unit of each of the first and second non-permanent magnet electric motors is a ceramic ball bearing.

14. The drive apparatus according to claim 8, wherein

the driven wheel drive controller is further configured to stop supply of drive currents from the first and second inverters to the first and second non-permanent magnet electric motors, respectively, and allow flows of regenerative electric currents when a vehicle speed is equal to or greater than a prescribed vehicle speed.

15. The drive apparatus according to claim 1, further comprising

a power source configured and arranged to drive third and fourth wheels; and

a control until configured to selectively switch between a four wheel drive mode and a two wheel drive mode.

16. The drive apparatus according to claim 15, wherein

the power source is an internal combustion engine.

17. The drive apparatus according to claim 16, further comprising

a generator mechanically coupled to the internal combustion engine and electrically coupled to the first and second non-permanent magnet electric motors.

18. The drive apparatus according to claim 17, further comprising

at least one inverter configured and arranged to supply electric power to the first and second non-permanent magnet electric motors; and

a driven wheel drive controller configured to control the at least one inverter to control a torque of each of the first and second non-permanent magnet electric motors.

19. A drive apparatus for a vehicle including a pair of primary drive wheels driven by a power train and a pair of driven wheels, comprising

non-permanent magnet electric motor means for independently and separately driving first and second wheels of the driven wheels; and

gear reduction means operatively coupled to the non-permanent magnet electric motor means, for independently and separately reducing speed of the non-permanent magnet electric motor means.

20. A method of driving a pair of driven wheels for a vehicle including a pair of primary drive wheels driven by a power train, comprising:

separately driving first and second wheels of the driven wheels using first and second motors, respectively, without a permanent magnet; and

separately controlling gear speeds of the first and second electric motors.